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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/742,905

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Amitava Ghosh

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EXAMINER

NGUYEN, STEVEN H D

ART UNIT

PAPER NUMBER

2665

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/742,905

Applicant(s)

GHOSH ET AL.

Examiner

Steven HD Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>3/30/04</u> .   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 1 is objected to because of the following informalities:

As claim 1, line 9, -- single – must be inserted between “the” and “data”. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As claim 7, line 8, “the data channel” is vague and indefinite because it does not refer to any previous element.

There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haartsen (USP 6021124) in view of Huang (IEEE).

Regarding claims 1-3 and 7, Haartsen discloses a data transmission system employing hybrid automatic retry request (HARQ) between the transmitters and receivers for performing HARQ (Fig 4, Ref 24s are transmitters that implement ARQ function and plurality of destination devices, Fig 3, Ref 26 or Fig 4, Refs 29; See col. 1, lines 10-22; col. 4, line 22 to col. 6, line 35, and col. 7, lines 24-44, plurality of transmitters includes even and odd transmitters). However, Haartsen fails to disclose means for selecting a user that owns a current time slot based on a status of each individual user's queue comprises the step of selecting the user that owns the current time slot based on a combined queue (Fig 3, BS performs traffic scheduling based on current weight of each connection "user"); means for communicating ownership of the time slot to the user that owns the current time slot over a Forward Dedicated Control Channel (F-DCH) (Fig 3, BS sends allocations information); means for communicating an even or an odd channel state to the user (Fig 3, BS send ACKs "channel state" of uplink traffic); means for performing HARQ transmission to the user over the data channel based on the status of each individual

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user's queue and the channel state (See Section III and IV, Fig 3, the base station has a scheduler for scheduling a user for performing ARQ based on the current weight of the buffer of each connection "user" and channel state).

Since, Haartsen suggests that the network resource is shared between the subscribers and the techniques for performing ARQ such as stop and go, go back N and selective repeat are well known in the art wherein the waiting time of the packet to be transmitted and channels' characteristic must be considered when the system implements selective ARQ using dynamic assignment channels method. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to apply a method and system for broadcasting the allocation information and channel states to the user as disclosed Huang's method and system into the method and system of Haartsen. The motivation would have been to improve the performance and throughput of the network.

Regarding claims 4-6, Haartsen discloses an apparatus comprising a plurality of source transmitters each performing HARQ transmissions to a plurality of destination devices over a single data channel, the plurality of source transmitters comprising a first HARQ transmitter; a second HARQ transmitter coupled to the first HARQ transmitter; the first HARQ transmitter is an odd HARQ transmitter, the second HARQ transmitter is an even HARQ transmitter, and HARQ transmission via the first or the second HARQ transmitters takes place via the odd or the even HARQ transmitter (Fig 4, Ref 24s are transmitters that implement ARQ function and plurality of destination devices, Fig 3, Ref 26 or Fig 4, Refs 29; See col. 1, lines 10-22; col. 4, line 22 to col. 6, line 35, and col. 7, lines 24-44, plurality of transmitters includes even and odd transmitters). However, Haartsen fails to disclose a system scheduler that selects a user that

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owns a current time slot based on a status of each individual user's queue and performing HARQ transmission via the first or the second HARQ transmitter to a destination device over the single data channel based on a status of each individual user's queue and a channel state. In the same field of endeavor, a system scheduler that selects a user that owns a current time slot based on a status of each individual user's queue and performing HARQ transmission via the first or the second HARQ transmitter to a destination device over the single data channel based on a status of each individual user's queue and a channel state; wherein the system scheduler selects the user that owns the current time slot based on a combined queue. (See Section III and IV, Fig 3, the base station has a scheduler for scheduling a user for performing ARQ based on the current weight of the buffer of each connection "user" and channel state).

Since, Haartsen suggests that the network resource is shared between the subscribers and the techniques for performing ARQ such as stop and go, go back N and selective repeat are well known in the art wherein the waiting time of the packet to be transmitted and channels' characteristic must be considered when the system implements selective ARQ using dynamic assignment channels method. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to apply a method and system for broadcasting the allocation information and channel states to the user as disclosed Huang's method and system into the method and system of Haartsen. The motivation would have been to improve the performance and throughput of the network.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chacham (IEEE) discloses a method and system for implementing SR-ARQ.

Chang (IEEE) discloses multichannel ARQ protocol.

Amalfitano (USP 6236647) discloses a method and system for dynamic frame size adjustment and selective reject a multi-link channel to improve effective throughput and BER.

Nakajima (USP 5940769) discloses a system using re-send control method.

Ahmadvand (USP 6542490) discloses a data link control protocol for 3G system.

Gorsuch (USP 6388999) discloses a system for dynamic allocation channels based on buffer of the user.

Kawabata (USP 6424645) discloses a method and system for broadcasting assignment information.

Cudak (USP 6275488) discloses a variable rate CDMA.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven HD Nguyen whose telephone number is (571) 272-3159.

The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy D Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, consisting of a series of loops and a long horizontal stroke extending to the right.

Steven HD Nguyen  
Primary Examiner  
Art Unit 2665  
9/27/04